

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009517**Date Inspected:** 07-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Mike Gregson, Jose Salazar**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Hinge K Pipe Beams**Summary of Items Observed:**

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

OIW Fabrication Shop-Bay 3

Hinge-K Pipe Beam Assembly 102A-1: 10/7/09

a111-1 Forging to a110-1 Base Plate

QA Inspector noticed that OIW had previously placed this forging assembly 102A-1 in position and was in-process of machining the completed stiffeners, utilizing a mechanical machining bit. QA Inspector had previously measured the stiffener heights to be approximately 662mm and noted that approximately 12mm of material (485W) was in process of being removed, to achieve a desired result of 650mm (+3mm/-10mm), which is in accordance to contract requirements. QA Inspector had previously spoken with OIW machinist and OIW explained that the mechanical machining bit was set to remove approximately 1/32" (.8mm) of material (485W), per each cutting pass. QA Inspector noted that once the machining process is complete, OIW will perform dimensional measurements utilizing a laser tracker, prior to fitting the a109 (Post Tension Cap) plates. See attached picture below.

Hinge-K Pipe Beam Assembly 102A-3: 10/7/09

a111-3 Forging to a110-3 Base Plate

QA Inspector noticed this assembly 102A-3 had been previously placed in position and welder #F17, Mr. Igor

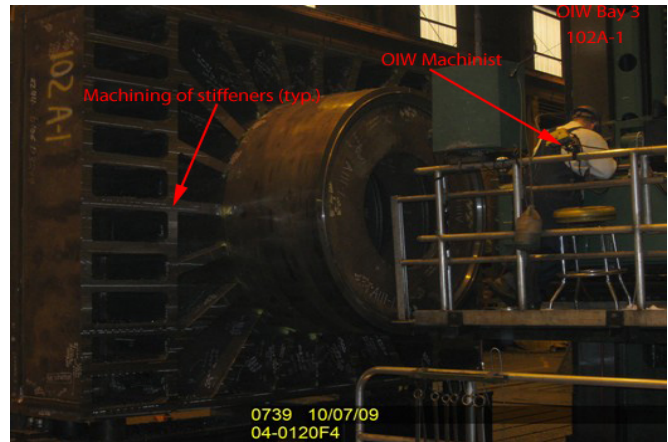
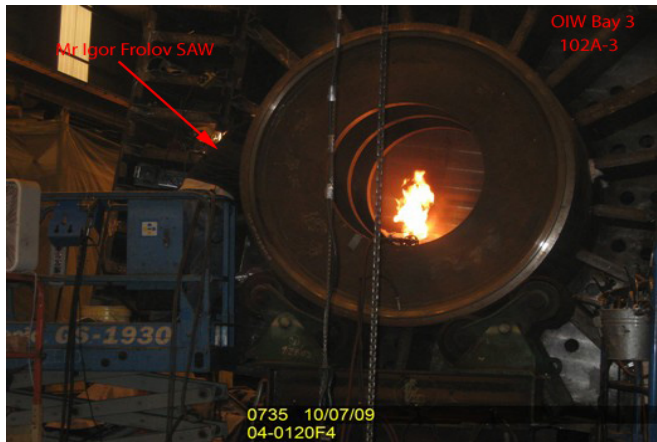
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## WELDING INSPECTION REPORT

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Frolov, was in process of performing submerged arc welding, on the c107 radial stiffener plate to a 111-3 tubular forging, designated as weld joint #W1-163, in the flat position. QA Inspector noted that this weld joint was designated as a partial joint penetration (AWS D1.5 TC-P5-S) and QA Inspector noted that Mr. Frolov was currently performing the submerged arc welding on the root pass. QA Inspector noted that Mr. Frolov was utilizing OIW approved welding procedure specification (WPS 4016) and randomly recorded pre-heat temperatures of approximately 350 degrees Fahrenheit (177 C) and in-process welding parameters of 420 amps/30 volts. QA Inspector noticed QC Inspector Jose Salazar was present to monitor in-process welding parameters (amps/volts) and noted that Mr. Salazar had previously recorded in-process welding parameters of 430 amps and 30 volts, which appears to be in-compliance with the applicable welding procedure specification (WPS 4016). QA Inspector later spoke with QC Inspector Jose Salazar and Mr. Salazar explained that the above mentioned weld joint, was completed by Mr. Frolov, by end of shift. Mr. Salazar explained that 100% magnetic particle testing was performed on the above mentioned SAW root pass and no rejectable indications were found, per AWS D1.5 and contract requirements. See attached picture below.



### Summary of Conversations:

As noted above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Vance,Sean	Quality Assurance Inspector
<b>Reviewed By:</b>	Adame,Joe	QA Reviewer

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